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National Cultures and Social Protection as Alternative Insurance Devices

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Abstract

In a mobile market economy there is a continuous process of creative destruction and specific investments in human capital can be particularly risky. For this reason market economies are likely to be characterised by a painful trade-off between the advantages of market flexibility and those of specialization. The claim of our paper is that the State can do much to improve the terms of this trade-off. National States can invest in the development of homogeneous national cultures that can decrease the specificity of many human capital investments. At the same time, the State can insure the individuals who undertake specific investments by providing them with some form of social protection. In this respect, cultural standardization and social protection can be seen as substitutes, and the optimal mix of cultural standardization and social protection changes in different countries. We observe that the process of European integration has reinforced the role of cultural standardization relatively to that of social protection. We argue that, by mimicking the same mix of policies as the U.S., the E.U. would end up doing too much for cultural standardization and too little for social protection.

Keywords: nationalism, welfare state, specific investments, human capital

JEL Classification: H50, P51, J24

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In a mobile market economy, characterised by a continuous process of creative destruction, specific investments in human capital can be particularly risky. Contrary to Adam Smith's predictions, the market economy can then be characterised by a low level of specialization and by an unsatisfactory development of specific skills. The recent literature has underlined the importance of long term contracts and of different types of safeguards: both devices emerge in the private sphere to ease the related underinvestment problem. For this reason, in the private sphere there is a trade-off between market flexibility and Specialization.

The claim of our paper is that the State can do much to improve the terms of this trade-off. National States can invest (and have, indeed, invested enormous amounts of resources) in the development of homogeneous national cultures that can decrease, or even eliminate, the "specificity" of many human capital investments. In other words the National State could promote forms of cultural integration and the formation of educational, professional and legal standards that increase the "liquidity" of their members[1]. At the same time, the State can offer some insurance against the illiquidity risks of specific human capital investments in the form of social protection.

We acknowledge that investment in national culture (including the creation of all sorts of national standards) and social protection can also be self-reinforcing complements. However we concentrate our analysis on the trade-off faced by the State as long as they are substitutes.

The paper is divided in three sections. In the first section we consider how, in order to create the institutional preconditions of a market economy, national states have used both forms of cultural standardization and social protection. In this way they could find an useful compromise between the advantages of the division of labour and those related to the process of "creative destruction" that is typical of market economies. In the second section we model how the State can maximise the welfare of the representative agent by choosing an optimal mix of cultural standardization and social protection. Finally, in the third section we consider that, as consequence of globalisation and of the processes of international integration, the State may lose the control of one or both the policy instruments by which an optimum mix could be achieved. The economic union of some states can be an answer to this problem. We consider the case of E.U. and we argue that the institutional features of E.U. imply a shift that overemphasises the role of cultural standardization with respect to that of social protection. We suggest that it is only at the risk of favouring the growth of nationalistic movements that one can forget that in Europe American-type standardised markets cannot be a good substitute for the social protection

[1] "Specificity" is the key concept of the New Institutional Approach of Oliver Williamson (1985). It is important to clarify that specificity is not an intrinsic attribute of economic assets. It simply refers to the fact that an asset does not have alternative uses in the economy where it is equally valuable. In this sense specificity is strictly related to the concept of (il)liquidity developed by Keynes (1936). A claim of our paper is that the State can do much to decrease the specificity of investment (with particular reference to those in human capital). That is tantamount to saying that it can do much to increase their liquidity.

that has been historically given by the welfare state.

1. Division of labour, creative destruction and the National State

Smith's principles of the division of labour mark the "official" beginning of modern political economy. The Wealth of Nations is explained by referring to the learning by doing advantages of specialization which are, in turn, related to the extension of the market.

The "learning by doing advantages" of the market economy are a very suggestive piece of analysis and their importance in the history of economic analysis cannot be easily exaggerated. However, the Smithian claims can be challenged on several grounds.

In the first place, the division of labour can be aimed at the "minimization of the learning necessary for doing" rather than at the "maximisation of learning" by doing. This point was developed in 1832 by the mathematician Charles Babbage who gave a more convincing explanation of the division labour existing in the famous pin making factory analysed by Smith: according to Babbage the separation of jobs and their assignment to different people saved on training time; the learning by doing advantages would be very limited given the repetitive nature of tasks like making the wire straight or cutting it. The principles analysed by Smith and Babbage do not exclude each other. Both the minimization of the learning necessary for doing and the maximisation of the learning by doing are likely to have an important role in the market economy. However, their optimal combination cannot be taken for granted and the analysis of market institutions becomes crucial to assess the efficiency characteristics of a certain division of labour[2].

In the second place, the "learning by doing advantages" of specialization can be seriously limited by the fact that the market economy is characterised by a continuous process of Schumpeterian "creative destruction" where old skills are made redundant and are continuously replaced by new skills[3]. In this context very specialised skills may have the lowest liquidity. Their "specificity" may imply that they are the most likely victims of a the destructive part of the process of creative destruction that characterises market economies. The process of innovation and change, that is one of the main advantages of market economy, may also paradoxically inhibit the advantages of specialization.

Finally, the market economy is not a necessary condition for the existence of the division of labour. A complex division of labour characterised feudalism and all sorts of agrarian societies. Indeed, as Ernest Gellner[4] pointed out, what distinguishes agrarian

[2] This point is developed in Pagano (1991), which considers also the influence of three stylised models of Capitalism on the characteristics of the division of labour.

[3] According to the Schumpeterian view a process of "industrial mutation ... incessantly revolutionises the economic structure from within, incessantly destroying the old one, incessantly creating a new one. This process of Creative Destruction is the essential fact about capitalism. It is what capitalism consists in and what every capitalist concern has got to live in" (Schumpeter, 1952, p. 83). However, in our view, in a market economy the fear of future "Destruction" may seriously inhibit the "Creative" element. Specialising in new skills and equipment may be inhibited by the fear that they will soon become old and redundant.

[4] Gellner's analysis of Nationalism and its relation with the division of labour of industrial society has

societies from industrial market societies is the immobility of the division of labour and of the roles of the individuals. The paradoxical consequence of this consideration is, again, that some distinguishing characteristics of market societies may be at the odds with the advantages of learning by doing considered by Smith and be better suited to exploit the advantages of the division of labour considered by Charles Babbage.

A common consequence of these three objections is that the degree of mobility required by the market mechanism may in fact undermine incentives to specialize by investing in specific skills.

Numerous safeguards against unwanted mobility emerge in the private sphere of the market economy to provide incentives for specific investments and exploit the advantages of specialization. However, privately provided safeguards have serious limitations. Consider any "contract" aimed at reassuring the worker that his/her investment in human capital will be adequately rewarded within the current employment relation: ex post, once the process of creative destruction has adversely affected the market value of the investment, the worker is exposed to the ex-post opportunism of the employer, that may have contrasting interest. The definition of rules to be applied in order to overcome this kind of contract incompleteness is a major governance problem of modern corporation; these rules can be themselves "specific" to the single organisation, so that their enforcement will require costly "second order specific investments" (Pagano, 2000). In general, providing safeguards within a single firm or sector might by very costly, as it introduces rigidities in the market mechanism (especially the labour market). As Oliver Williamson has pointed out, these rigidities should not be judged in terms of the foregone ex-post opportunities of the parties, but in terms of their ability to guarantee ex-ante an adequate level of investments in specific human capital: in some ways these rigidities are a form of private insurance against the specificity of human capital that favours the Smithian process of learning by doing. In other words, market economies seem to be necessarily characterised by an undesirable trade-off between the advantages of flexibility and the advantages of specialization.

There is, however, an interesting way out of this dilemma. According to Gellner two institutions accompanied the birth of market societies: nationalism and social protection. Both institutions could improve the terms of the trade-off between flexibility and specialization.

The rise of market mobility and of the "creative destruction" of capitalism has come together with the emergence of nationalism. Nationalism is a view of the world according to which ethnic and political community should coincide. Such view was largely unknown to "agrarian" societies where different ethnic groups were assembled, divided and re-assembled according to the vagaries of dynastic policies (in particular marriages)

had a great influence on the present work. His theory was first stated in Gellner (1983). Later versions (Gellner, 1998, 1999) included an analysis of the experience of the different European countries and the consequences of cultural integration on the attenuation of nationalist feelings. An analysis of Gellner's contribution is contained in Pagano (1995, 1999).

and wars. Within this political arrangements, horizontal cultural diversity was coupled with a remarkable vertical differentiation. In agrarian societies the lower classes of each village would speak a different dialect and the language of the upper class would be different from that of the large majority of the population. This very high degree of cultural differentiation was not a problem for the economic organization of agrarian societies. Even when their division of labour was complex and sophisticated, it was characterised by an immobile structure and by unchanging roles within this structure. For this reason, individuals needed to communicate with a very limited number of people for the transmission of knowledge and skills whose content changed very rarely and was always locally available often even within the family. In many ways, cultural differentiation could be even useful to enhance the stability of the unchanging economic organization of agrarian societies. Cultural differentiation spelled out in the clearest way the social roles and the positions in the division of labour that each individual was expected to occupy and the skills that they were supposed to acquire. In other words, within the social structure of agrarian societies cultural differentiation helped the co-ordination of the division of labour and the specialization of the individuals.

Mobile market societies could not flourish in the situation of cultural differentiation characterising agrarian societies. Market mobility required a remarkable degree of cultural homogenisation and the adoption of many common legal institutions. In a situations where people could easily change jobs it was extremely important to decrease the "specific" components of each skill that were not related to the advantages of specialization. A common language and common traditions and procedures became essential to increase the liquidity of the skills. Nationalism was (also) a very important way of expressing the demand for the institutional preconditions of market economy. For many ethnic groups it became rather important to have a National State that was ready to invest in their ethnic capital and that persuaded (or even forced) other groups to accept the language and traditions of the group dominant over a certain territory. To use Gellner's metaphor, the new mobile economy was the outcome of a marriage between a bride (some homogeneous high culture dominating over a certain territory) and a groom (the national state). This explains how certain countries like England and France which had both the bride and the groom ready could be the first to enjoy the advantages of the mobile market economy. They were followed by countries like Germany and Italy were the bride (a homogeneous high culture) was ready but it took some time to find the appropriate groom achieving the political unity of the country. The same type of marriage was much more painful in territories where neither the bride nor the groom were available. The drive to follow the experience of the other economies produced wars and ethnic conflicts—and sometimes even ethnic cleansing (Gellner, 1998, 1999).

In most cases, when the appropriate marriage between a State and culture could not be arranged, the Smithian learning by doing advantages of the division of labour could not be exploited in the mobile market economies. The countries which failed were more likely to join the periphery of the market economy and concentrate on the Babbage ad-

vantages of specialization: in a situation where their learning was highly illiquid they had better to exploit a specialization that minimised the learning that was required for doing. While national states and nationalism were, perhaps, in the past the most powerful way of decreasing the costs of specialization in a mobile society, there was a clear limit to this way of decreasing the illiquidity of human skills. In many cases the specificity of learning could not be eliminated by the process of cultural homogenisation and other forms of standardization or, in some cases, this process was terribly costly in terms of foregone productivity benefits. In other words, cultural homogenisation and other types of standardization have only a limited ability of improving on the trade-off between the benefits of specialization and the benefits of market mobility existing the private sphere.

An alternative way by which the State can improve the terms of these trade-offs is by introducing forms of social protection for specialised skills that become redundant. In some respects, and in spite of the numerous drawbacks, state intervention has some decisive advantages with respect to the "private insurance" that private firms can give for specific resources. The main advantage of state intervention is that it can insure specific resources against the hazard that the entire firm or the whole industrial sector fails to survive the process of "creative destruction"; to insure this kind of systemic risk is beyond the reach of private firms (or even private insurance companies).

Here, social protection must be taken in a broad sense. As pointed out some decades ago by Domar and Musgrave (1944), and more recently by Sinn (1995, 1996), the institutions of the welfare state, and in general the whole redistributive action of the state, as they compensate the less lucky at the expenses of the successful individuals, can be viewed as a means of providing insurance against the risk of a bad life outcome.

In many respects, cultural standardization and social protection can be seen as two fundamental complementary institutions that favoured the emergence of a market economy. Indeed nationalism favoured the dominance of a standardised high culture over a certain area and, at the same time, claimed that all the people sharing the same ethnic identity were "brothers" linked together by a special sense of solidarity. Thus, nationalists pushed for both cultural standardization and social protection and, moreover, the two objectives were, in many respects, mutually reinforcing. Cultural standardization reinforced the sense of solidarity and made it easier to agree to forms of social protection. In turn, social protection favoured the feeling of belonging to the same "imagined community"[5] and favoured the conditions under which local dialects and traditions could be abandoned for the national languages and the traditions defining the national identity.

However, a high degree of cultural standardization is not always a necessary condition for the provision of social protection. Indeed, liberalism does often emphasise the value of cultural diversity. Moreover it is possible to create a feeling of strong solidarity among all those people who defend the rights and the liberties that are related to the flourishing of this diversity. Even when one wants to emphasise some of the complementarities

[5] This term is due to Anderson (1991).

between cultural standardization and social protection, one should not forget that they can also be "substitutes" in the sense that they can be often independently supplied and that the same objectives can be achieved increasing the supply of one or the other.

The risks related to the "illiquidity" of human capital can be either reduced by decreasing the degree of illiquidity or by a system of public insurance against its risks. In this sense the marginal net benefit of cultural standardization should be compared to the marginal net benefit of social protection.

The efficient mix of these two policies is likely to differ according to the relative costs of standardization and social protection. Thus, even when the mix of a particular country is efficient for that country, it may fail in some other countries. We believe that these considerations are rather important to assess the policies of the United States and of the European Union. However, we will postpone the argument to the last section of the paper, while in the next section we will try to make our intuitive argument more precise by building a formal model where public authorities have a choice of policy instruments to improve the trade-off between flexibility and specialization. At least in this very idealised setting, the State will therefore be able to find its optimal mix.

2. Formal analysis

To formalise the trade-off existing between the two instruments, standards and social protection, we will make use of a model which recalls somehow in its basic structure that of Sinn (1995, 1996).

2.1. Model preliminaries

Let e be the amount of standardization in the country we are considering. Increasing standardization is resource consuming, both for the individuals who have to meet the standard and for the authority, which must control that the standard is met. Moreover, to be able to respect a standard requires costly training. Last, but perhaps most important, a high degree of "genericity" of a skill—i. e. to which extent a skill is flexible and adaptable so that it can be employed in several jobs—is often reached at the expense of productivity in occupations which require "specific" abilities.

On the other hand, standardization affects the variance of the income of the representative agent, since the more one agent's skill meets a standard, the less that agent is likely to become redundant ex post, and/or the less the agent will have to spend to be retrained once he/she has become redundant. More standardization means a reduction in the expected loss the agent can suffer as a consequence of the creative destruction process, either because this loss is less likely to occur or because once occurred it is a less dramatic event for the individual. We write income as

$$y - ce - L \tag{1}$$

where ce is the investment in standardization (we can interpret it as the product of the "level" of standardization e and its unitary cost c). $L \geq 0$ is a random variable representing the loss in which the individual can incur. The loss depends on the level of standardization e and on an exogenous random variable $\theta \geq 0$, with $L = \lambda(e)\theta$. We make the following assumptions: $\lambda > 0$, $\lambda' < 0$, $\lambda'' \geq 0$ (this reflect the fact that standardization reduces the risk of the loss, but it does so at a decreasing rate), and λ' tends to $-\infty$ as e approaches zero.

The amount of standardization e is chosen collectively by the agents in the economy. Note that part of the expenses for standardization are publicly borne; however, since we are considering a collectivity of ex ante identical individuals, we don't need to introduce in the framework an explicit tax mechanism at this stage, and we assimilate these expenses with those borne privately by the individuals.

We consider the choice of the representative agent in the μ-σ (mean and standard deviation) space. By adopting a mean-variance approach to the problem of choice under uncertainty, there is no loss in generality with respect to an approach in terms of expected utility, provided that the aleatory variable differ only with respect to their scale and/or position (Meyer, 1987).

First, consider the problem of the individual when there is no way of reducing risk but investing in standardisation. The expected income of the individual, which from an ex post point of view is the average income in the economy, is

$$\mu = y - ce - \lambda(e)E\theta \tag{2}$$

while standard deviation is

$$\sigma = \lambda(e)R\theta \tag{3}$$

(E and R are respectively the expected value and standard deviation operators).

In the μ-σ space, the preferences of the representative agent are represented by a map of upward sloping and convex indifference curves. The fact that they are upward sloping and convex curves reflects risk aversion. We make the simplifying assumption that the individual's preferences exhibit constant absolute risk aversion; in this case, each indifference curve is a parallel translation of any other curve; this is because the level of expected income doesn't change the way in which the individual trades off the expected income for its variance. With constant absolute risk aversion, the preferences of the individual admit a quasi-linear representation

$$U(\mu, \sigma) = \mu + S(\sigma) \qquad \text{with } S', S'' \geq 0; \tag{4}$$

risk aversion is higher the higher is S'.

The level of standardization e is chosen so that utility is maximised. By differentiating utility with respect to e we have the following first order condition:

$$c + \lambda'(e)E\theta = \lambda'(e)R\theta S'(\sigma) \tag{5}$$

where on the left side we have the marginal effect of an increase in the level of standardization on average income (i. e. the marginal cost), and on the right side the marginal effect of that increase on utility due to the reduction in standard deviation (i. e. the marginal benefit). Note that on the left side the "direct" cost of standardization c is partly compensated by the (negative) term $\lambda'(e)E\theta$, which is the reduction in expected loss which accompanies an increase in e.

From standard manipulation of equation (5) we can check that the optimal level of standardization e increases with the degree of risk aversion, measured by S', and decreases with the cost of standardization c.

2.2. Social protection

Let us introduce now in our framework a system of social protection. This can be thought of as insurance the government provides for risks which cannot be effectively insured on the private markets. Here, we include much more than what is usually called social "insurance"; it comprises any intervention which benefits the losers at the expenses of the winners (where these terms refer to the outcome of the process of creative destruction, the dimension of L in our model). A publicly financed project to retrain the workers who have become redundant as a consequence of technological change is an obvious example; but in general any other form of income support for unemployed can be thought, from an ex ante point of view, as a form of insurance. Hence, we take the expression "social protection" or "social insurance" to include any public intervention which reduces the variance of the income of individuals: the whole system of taxation, the provision of public or even private goods by the government, as long as their financing deviates from a strict application of the benefit principle, are included. In fact, as claimed by Sinn (1996, p. 260), "the government budget is by far the largest risk absorption device available".

We represent this redistributive device in the simplest way: a proportional tax (whose rate is τ) coupled with a lump sum uniform transfer t. The effect of this tax and transfer is to smooth the income of individuals, by redistributing from those who are more lucky to those who are less lucky when uncertainty has resolved. We will show that such system, by providing a form of (though imperfect) insurance to the individual, can be at least partly a substitute for standardization.

Of course, there are limits to the possibility of providing insurance through ex post redistribution. We must take into account that redistribution involves a certain degree of distortion in the choice of the individuals, a point which economists have always stressed (particularly in recent years, when the costs of the welfare state have been a major concern for economists and politicians). We introduce moral hazard in the framework, by assuming that

$$y = m(a) - a \tag{6}$$

where $m(a)$ is taxable income as a function of a cost or "effort" variable a, which is incurred by the individual and is not tax-deductible. We assume that $m'(a) > 0$,

$\lim_{a\to 0} m'(a) = \infty$, $\lim_{a\to\infty} m'(a) = 0$, $m''(a) < 0$, $m'''(a) > 0$[6]. The efficient level of effort, which we indicate by $\hat{a}$, is such that $m'(\hat{a}) = 1$.

With taxation, net income becomes

$$(1-\tau)[m(a) - e - \lambda(e)L] - a + t; \tag{7}$$

with the budget balance condition

$$t = \tau E[m(a) - e - \lambda(e)L] \tag{8}$$

which must hold for the economy as a whole. With $\tau > 0$, we have a distortion in the choice of a, since it is chosen a value such that $m'(a) = 1/(1-\tau)$, and a level $a < \hat{a}$ is selected by each individual[7].

Let the function $a(\tau)$ be the optimal choice of a (from the point of view of the representative individual) as a function of the tax rate τ. Clearly, $a'(\tau) < 0$ and[8] $a''(\tau) < 0$. The deadweight loss associated with a certain level of social insurance, measured as lost income, is

$$\phi(\tau) = \hat{y} - m(a(\tau)) + a(\tau); \tag{9}$$

where $\hat{y} = m(\hat{a}) - \hat{a}$. From the assumption we have made on m it follows that $\phi(0) = \phi'(0) = 0$, $\phi'(\tau) > 0$ when $\tau > 0$ and $\phi''(\tau) > 0$[9]. The deadweight loss increases with the tax rate, and it does so at an increasing rate, a conclusion which is consistent with what generally results from theoretical analyses of tax distortion.

As an effect of the introduction of a tax system, the post-tax average income and its standard deviation become respectively

$$\mu = \hat{y} - \phi(\tau) - ce - \lambda(e)E\theta \tag{10}$$

$$\sigma = (1-\tau)\lambda(e)R\theta \tag{11}$$

For any given level of e, hence of pre-tax variance, the introduction of redistributive taxation reduces both variance (proportionally) and expected income (by an amount $\phi(\tau)$) with respect to the situation in which redistributive taxation is absent.

For given τ, the individuals will adjust the level of e in order to take account of the presence of this form of "insurance" (in fact, they might do it through some collective mechanism, since e is at least partly provided as a public good).

[6] We require that the marginal benefit of effort on income decreases, but it does so at a decreasing rate.

[7] Note that, though the choice of the individual is reflected on t in the aggregate, this effect is not taken into account by the single individual.

[8] The fact that $a''(\tau) < 0$ is a consequence of the assumption that $m'''(a) > 0$.

[9] This last inequality, in particular, follows from the fact that $a''(\tau) < 0$.

2.3. The optimal mix of standardization and redistribution

We want to find the optimal choice of both the tax rate τ and the level of standardization e, from the point of view of the representative individual. Once again, we maximize $U(\mu,\sigma)$ with respect to e and τ, where μ and σ are now defined by equations (10) and (11). The first order conditions for an internal solution are:

$$c+\lambda'(e)E\theta = -(1-\tau)\lambda'(e)R\theta S'(\sigma) \tag{12}$$

$$\phi'(\tau) = \lambda(e)R\theta S'(\sigma) \tag{13}$$

The first condition resembles condition (5); it considers the effect of the reduction in ex ante variance through standardization, and requires that the marginal cost of standardization equalizes the marginal benefit of the resultant decrease in variance for the individual. Similarly, the second condition equalizes marginal cost (in terms of reduced income average) and benefit (in terms of reduced variance) of an increase in the tax rate.

Note that we allow $e>0$ and $0\leq\tau\leq 1$. In fact, the problem admits a solution only in the interior of the admissible interval, since:

1. for $\tau=0$ the optimal value of e is defined by condition (5); but this cannot be optimal because the left side of equation (13), which represent the marginal cost of an increase in taxation, is zero, while the marginal benefit on the right side is strictly positive;
2. for $\tau=1$ the right side is zero in both conditions (12) and (13); hence, the optimal value of e is such that $c=-\lambda'(e)E\theta$, while the marginal cost of taxation, which is $\phi'(1)>0$, is larger than marginal benefit;
3. for e approaching zero, $\lambda'(e)$ tends to $-\infty$, hence in equation (12) for whatever strictly positive value of τ the marginal cost of increasing e is certainly less than the marginal benefit;
4. analogously, for e going to infinity, $\lambda'(e)$ goes to zero and marginal cost exceeds marginal benefit.

Therefore, the maximum will satisfy the first order conditions. Let $e^*(\tau)$ and $\tau^*(e)$ be the functions describing the optimal level of each variable as a function of the other variable implicitly defined by equations (12) and (13). Their derivatives are:

$$\frac{de^*(\tau)}{d\tau} = \lambda'(e)R\theta\frac{S'+(1-\tau)\lambda(e)R\theta S''}{[(1-\tau)R\theta\lambda'(e)]^2S''-c\lambda''/\lambda'} \tag{14}$$

$$\frac{d\tau^*(e)}{de} = \lambda'(e)R\theta\frac{S'+(1-\tau)\lambda(e)R\theta S''}{[\lambda(e)R\theta]^2S''+\phi''}; \tag{15}$$

they are both negative, hence the two first order conditions are represented by decreasing curves in the $\tau-e$ space.

The fact that the curves representing first order conditions are decreasing means that the two instruments—standardization and redistributive taxation—can be considered as

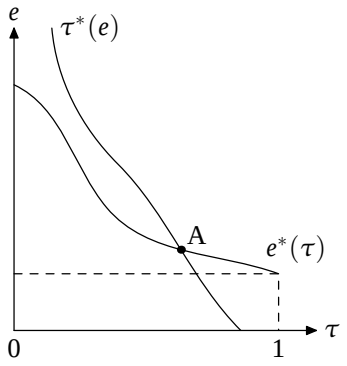

Fig. 1

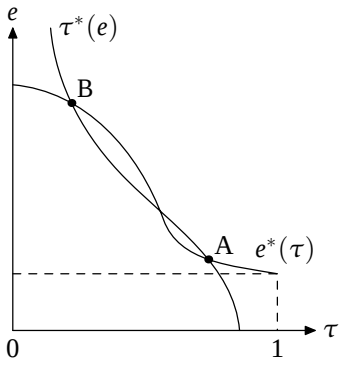

Fig. 2

substitutes, in the sense that using more intensely one of the instruments reduces the optimal level of the other. We summarize this in

Proposition 1. *There is an inverse relationship between the optimal level of standardization and the optimal intensity of redistributive taxation.*

The situation is represented in figure 1. Note that for e sufficiently high, $\tau^*(e)$ is strictly positive, therefore because of continuity the inverse of τ^* crosses e^* at least once from above. The requirement that (the inverse of) τ^* is steeper than e^*, or that

$$\frac{de^*(\tau)}{d\tau} \cdot \frac{d\tau^*(e)}{de} < 1 \tag{16}$$

is clearly equivalent to one of the second order conditions for maximisation[10].

Note that there is no reason why inequality (16) should be satisfied everywhere in the admissible set. This means that there is not reason why a point which satisfies the first and second order conditions should be unique. Indeed the two curves can cross more than once[11], as depicted in 2, where point A and B are both local optima.

2.4. Some comparative statics

We can assess the effect of a change in the cost of standardization c on the optimal mix of instruments. To this purpose, for notational convenience we consider function $\tilde{U}(e,\tau,c)$, which represent utility as a function of the two instruments and of c.

[10] Inequality (16) corresponds to the requirement that the determinant of the Hessian matrix is positive; in addition, for a maximum it is required that the second order partial derivatives on the main diagonal of the Hessian must be negative; these derivatives are represented by the denominators of equations (14) and (15), and they are always negative.

[11] It could be shown that sufficient conditions for uniqueness would involve restrictions on the sign of third order derivatives of some of the functions, such as λ and ϕ; unfortunately such restrictions are unwarranted, since they cannot be justified on the basis of standard assumptions.

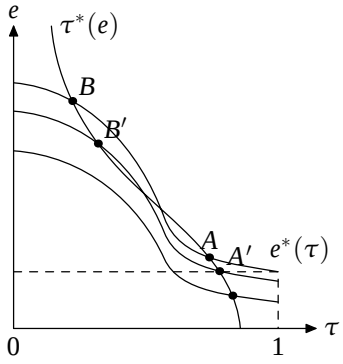

Fig. 3

By differentiating the first order conditions with respect to all variables we get (subscripts denote partial derivatives)

$$\tilde{U}_{ee}de + \tilde{U}_{e\tau}d\tau + \tilde{U}_{ec}dc = 0 \tag{17}$$

$$\tilde{U}_{\tau e}de + \tilde{U}_{\tau\tau}d\tau + \tilde{U}_{\tau c}dc = 0. \tag{18}$$

From (17) with $d\tau = 0$ we can evaluate how a change in c affects the curve $e^*(\tau)$; we obtain

$$\frac{de}{dc} = -\frac{\tilde{U}_{ec}}{\tilde{U}_{ee}} = -\frac{1}{[(1-\tau)R\theta\lambda'(e)]^2 S'' - c\lambda''/\lambda'} < 0; \tag{19}$$

hence, as c increases $e^*(\tau)$ is shifted down. The curve $\tau^*(e)$ is not affected by a change in c, since $\tilde{U}_{\tau c} = 0$.

By manipulating (17) and (18), in accordance to standard methods of comparative statics, we obtain

$$\frac{d\tau}{dc} = \tilde{U}_{ec}\left[1 - \frac{\tilde{U}_{ee}}{\tilde{U}_{e\tau}}\frac{\tilde{U}_{\tau\tau}}{\tilde{U}_{\tau e}}\right]^{-1}. \tag{20}$$

Since $\tilde{U}_{ec} = -1$ and the term in square brackets is negative when equation (16) is satisfied (i. e. when the second order conditions for maximisation are respected), we have that $d\tau/dc > 0$: the (locally) optimal level of taxation increases as c increases.

These conclusions regard only slight (local) changes in the cost variable c. Due to the possibility of multiple local optima, the conclusion that locally the optimal value of τ increases monotonically with c is not enough to draw general comparative statics conclusions on the behavior of this variable in response to discrete changes of c.

In particular, with multiple equilibria we cannot *a priori* exclude that (with reference to figure 3) though A is the (globally) optimal solution for a certain cost c, B' is the new optimum when the cost rises to $c' > c$. Since in B' taxation is lower than in A, the

conclusion that the optimal level of τ increases with c would be reversed if this were the case[12].

Luckily, it is possible to show that this is not the case. Consider the case of two local optima, and let $\tau_1(c)$ and $e_1(c)$ represent the values of τ and e in the local optimum A as a function of c; similarly define $\tau_2(c)$ and $e_2(c)$ as the values in local optimum B, and let $\tau_1(c) > \tau_2(c)$ and $e_1(c) < e_2(c)$. Now, consider a change in both optima driven by an increase in c.

Lemma 1. *If*

$$\tilde{U}(\tau_1(c), e_1(c), c) \geq \tilde{U}(\tau_2(c), e_2(c), c) \tag{21}$$

then it cannot be that, when $c' > c$,

$$\tilde{U}(\tau_1(c'), e_1(c'), c') < \tilde{U}(\tau_2(c'), e_2(c'), c'). \tag{22}$$

If utility is higher in A than in B, then it cannot be that it is higher in B' than in A'. In other words, it cannot be that, as a consequence of an increase in the cost c, the global optimum "jumps" to a local optimum characterised by a lower level of taxation (and a higher level of standardization). The global optimum can either move continuously as the local analysis suggests, or jump to another local optimum characterised by a higher level of taxation and a lower level of standardization.

Proof of Lemma 1. To proof the lemma, we must show that for $c' > c$ we have

$$\tilde{U}(\tau_1(c'), e_1(c'), c') - \tilde{U}(\tau_1(c), e_1(c), c) \geq \\ \tilde{U}(\tau_2(c'), e_2(c'), c') - \tilde{U}(\tau_2(c), e_2(c), c). \tag{23}$$

Inequality (23) can be written as

$$\int_c^{c'} \frac{d\tilde{U}(\tau_1(\tilde{c}), e_1(\tilde{c}), \tilde{c})}{dc} d\tilde{c} \geq \int_c^{c'} \frac{d\tilde{U}(\tau_2(\tilde{c}), e_2(\tilde{c}), \tilde{c})}{dc} d\tilde{c}; \tag{24}$$

Since as c increases τ and e are set so that the first order conditions for maximisation are always satisfied, we can substitute the partial derivative for the total derivative (this is an application of the envelope theorem):

$$\frac{d\tilde{U}(\tau_k(c), e_k(c), c)}{dc} = \tilde{U}_c(\tau_k(c), e_k(c), c) \qquad k = 1, 2; \tag{25}$$

being $c < c'$ and $\tilde{U}_c < 0$ everywhere, (24) is verified as long as

$$\tilde{U}_c(\tau_1(c), e_1(c), c) \geq \tilde{U}_c(\tau_2(c), e_2(c), c) \qquad \text{for every value of } c; \tag{26}$$

since the partial derivative is $\tilde{U}_c(\tau_k(c), e_k(c), c) = -e_k$ and $e_1(c) < e_2(c)$, condition (26) is always satisfied, and the lemma is proved. □

[12] Another possibility is that one of the local optima disappears as an effect of the increase in c; however, from figure 3 it should be clear that this can be true of B but not of A, hence in this case the effect on the value of τ is clearly an increase.

Lemma 1 and our conclusion on local comparative statics allow us to state:

Proposition 2. *The optimal mix of redistribution and standardization is characterised by higher levels of taxation and lower levels of standardization as the cost of standardization c increases.*

3. Globalisation, European integration and the crisis of the welfare state

According to Gellner, while nationalism was so important for the building of modern mobile societies, it may receive a diminished impetus "during the later and most prosperous age of industrialism" (Gellner, 1999, p. 203). In the first section we have seen how national cultural standardization and forms of social protection allowed national states to give a fundamental contribution to the building of a mobile market economy and to join together the advantages of "creative destruction" with those of specialization. However, at higher level of developments of industrial societies the cultural standardization, which national states have been able to create, may become an obstacle for further economic development.

One evident aspect of "globalisation" is that "cultural standardization" has gone well beyond national boundaries and that numerous forms of cultural convergence have come about. Gellner (1999) observed how amongst advanced industrial Nations with a reasonably close cultural starting point,

> differences tend to become phonetic not semantic: people have and conceive and handle the same 'things' (generally made in the same way in the same places or even in the same places) and characterise them by the same concepts, but express these with words differing only in the sounds they use, rather than in their content. (p. 201)

In this situation, in some circumstances, it may even be possible

> to move a person ethnicity from the public sphere to the private sphere, to pretend that it is only their own business, like sex life, and something which need not to interfere in their public life, and which is improper to drag in. But this is really a pretence, which can be indulged if one dominant culture is appropriated by all and usable as a kind of general, permitting people to be bi-cultural and use another one, if they so wish, in their home and other restricted areas. (p. 205)

There is no doubt that the recent developments of the Web and, in general, of information technology have greatly accelerated this process. While many have celebrated the "death" of distance and space, English may end up making our own languages as private as our own sex life!

In many respects, this international process of cultural standardization brings about an attenuation of national feelings. Many individuals do not feel anymore that the "liquidity" of their skills depends on the investment of a national State in a particular culture and, in general, in national ethnic capital. At the same time the "international culture" is far from being neutral and, in many respects, it is a victory of the national Anglo-American cultures. Thus, the increase in the liquidity of the skills of the individuals is very uneven. It benefits the members of the ethnic groups that belong to the national-international culture more than the other groups that may be sometimes rather upset by the fact that their languages may become their own private business. Moreover, the international process of cultural standardization may give a disproportionate benefit to the cosmopolitan elites of some countries. In some cases, it may make them as detached from the other members of the population as the French-speaking Russian aristocracy was culturally separated from the Russian peasants. At the least in the eyes of "cosmopolitans", the role of the State as the defendant of ethnicity becomes much less important.

At the same time, in an integrated world mobile factors can avoid national taxation and national states may well lose part of the ability to offer social protection. In this framework, national state are not likely to have anymore the ability to achieve that (possibly optimal) mix of cultural standardization and social protection that had, in particular, characterised the experience of the modern welfare states. Even in a very idealised world, the story of our model can no longer apply. The State cannot choose the (optimal) mix of instruments that we have considered for the simple reason that they are beyond its control.

The control of the two channels through which a reduction in the risks of specialization is achieved seems to be possible only at a supranational level. National States may join together and promote forms of cultural integration and common professional and legal standards that increase the liquidity of the human capital of their members. At the same time, mobility of factors and of individuals calls for a coordination of fiscal policies, in order to avoid tax competition.

An obvious example of this type of partnership is the building of the European Union. Particularly appropriate examples of cultural policies are the "Erasmus programme" and the current attempt of the European countries to homogenise their educational systems. The two projects show how engaged are the countries of the European Union in both cultural integration and the creation of new common educational standards.

However, in spite of their great merits, these types of policies may have some evident drawbacks. Cultural integration may be felt like a loss of sunk ethnic investments and, sometimes, also as a loss of ethnic identity. At the same time, the imposition of all sorts of standards may be seen as a set arbitrary rules dictated by foreign bureaucrats.

One can easily argue that the cultural integration and the centralised setting of standards may help the creation of larger markets and increase the liquidity of the human skills. In this respect, the E.U. bureaucracy is simply repeating at supranational level that activity of market creation that was performed, in earlier times, by the bureaucracy

of national states. Within certain limits markets and the bureaucracies have always been "complementary" institutions[13].

However, the criticism of E.U. intervention can become more convincing when one considers that the E.U. is only empowered with one of the two instruments that allow the achievement of an optimal level of specialization. While Brussels has (perhaps, excessive) standardization powers, it seems to have a very limited active role in social protection. Even worse, the abilities of the national states to offer social protection has been severely handicapped by the Maastricht Treaty and by national resistances to fiscal harmonisation. The overall result is that the development of the European Union has determined an overall shift of the mix of policy instruments that we have considered in the preceding section. Cultural, legal and professional standardization have been greatly reinforced and expanded beyond national boundaries; by contrast, social protection is in fact still within the competence of the member states, and its scope has been probably weakened.

In principle, the new combination of standardization and protection need not make people worse off. Indeed, on the basis of our own model, it is possible to argue that the increased liquidity arising from standardization at European level may be a substitute for social protection. However, in the case of Europe the shift in the mix of instruments seems to be a consequence of an institutional unbalance rather than of a conscious choice. Such unbalance may well imply that the "representative agent" of our model may end up off the optimum, on a lower indifference curve.

Notice that the case for a joint control of the two instruments is even reinforced by the possibility of multiple local optima, which we have discussed above. In a local optimum, the level of each instrument is optimal given the level of the other instrument, yet without uniqueness this is not enough to make sure we have reached the global optimum. Translating it in terms of economic policy: if the two policy instruments are controlled by different authorities (standardization by Brussels, and redistributive policies by the single member states), even if both of them are setting the variable under their control in order to maximize welfare, i. e. even if the choice of each instrument is a best response to the choice of the other instrument, we can end up in an inefficient solution. Coordination of instrument, and joint determination of their respective levels, is required to reach the social optimum.

Finally, our Proposition 2 states that the optimal mix of instruments depends on the cost of standardization, and higher barriers to standardization can justify the choice of a deeper recourse to social insurance as an alternative to the imposition of standards. This means that it may be rather unsound to dream of a Europe characterised by the high level of standardization and low social protection level that one can observe for example in the United States. Cultural diversity makes the costs of increasing the liquidity of

[13] In this respect, one should not overstate the contrast between the rigidity of bureaucracies and the flexibility of markets. In some cases the rigidity of the rules of bureaucracies can even be a necessary condition for the flexibility of markets.

skills much higher in Europe than in the United States. We believe that it is an appealing consequence of our model that Europe must be necessarily characterised by a higher level of social protection. In other words, even independently of traditions, ethical values and preferences, one may argue that the social protection typical of the European Welfare State should not be dismantled. In Europe, American-type standardised markets cannot be a good substitute for the social protection given by the welfare state. By overlooking this point, European countries might incur in inefficiently high costs, which in some cases can take the form of a growth of nationalistic movements.

The view of nationalism proposed in this paper is still relatively new to economists. In order to emphasize (and provide a formalization of) what we think is the fundamental relation between welfare policies and the development of a common national culture, we had to sacrifice other dimensions of the problems. In a future development of this analysis, it will be useful to move from the simplified world of a single representative agent to the real world of heterogeneous individuals. We have already observed that both the benefits of increased liquidity and the costs of decreased social protection are distributed in a very uneven way. For some individuals, standardization may do little to increase the liquidity of their skills and may be even perceived as associated to useless imposition from unelected Brussels's eurocrats and to a loss of cultural identity. At the same time, for the same individuals, the reduced level of social protection may be rather painful. The recent Austrian problems may be related to the fact that some social groups may experience the situation that we have just outlined. It is not surprising that some members of the population may also develop strong anti-European integration feelings.

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